ALTERNATIVES CONSIDERED-WITHDRAWN

ALTERNATIVES CONSIDERED AND WITHDRAWN

The following discussion summarizes the alternatives which were considered and will not be advanced for further evaluation because they are (1) not practicable or (2) they would result in significant environmental impacts that would preclude their consideration as a least environmentally damaging practicable alternative.

North Crossover

The North Crossover Alternative proposed that the South to East Connector cross the freeway approximately 1000 meters north of Carmel Valley Road from the west side of I-5 and then run parallel to the east side of I-5. The proposed southeast connector would stay on an elevated structure next to the proposed northbound bypass lanes.

This alignment elevates further north than the Direct Connector alternative and is similar in height as the "standard" Direct Connector. In addition, this alternative would impact an existing parking structure, parking lots and buildings along the east side of I-5, thus requiring substantial right-of-way takes from the properties and resulting in significant parking impacts.

South Crossover (Horseshoe)

The horizontal alignment of the South Crossover extends approximately 800 meters to the south of the SR-56, where it makes a "U" turn over I-5 lanes, then follows the alignment of existing northeast connector. To avoid the bypass lanes and to achieve an adequate turning radius, the alignment would have to cross over the Penasquitos Lagoon on the west side of I-5 and possibly into the Carmel Valley Restoration and Enhancement Program (CVREP) on the east side. As a result, significant biological impacts are likely to occur to these environmentally sensitive habitat areas. The vertical alignment of this option requires it to cross over bypass lanes near Pointe Del Mar, I-5 and the 'North-to-East' Connector, but at a lower elevation than the standard Direct Connector as it crosses the existing connectors.

The "U" turn over I-5 will add approximately 1500 meters to the alignment, and would create longer travel time. The sharp 105 meters radius over the freeway will have a design speed of about 35 to 40 mph, but would not meet the advisory design speed. In addition, the encroachment of the aerial structure over the lagoon and potential impact to the CVREP is of concern. It would be very difficult to mitigate the impacts to the lagoon and CVREP to obtain the necessary resource agency permits for this alternative because it would not be considered the least environmentally damaging practicable alternative.

Loop Ramp over I-5

The alignment extends parallel to the west side of I-5, going over the truck bypass lanes and then Carmel Valley Road. The alignment then loops and parallels Carmel Valley Road, while crossing over I-5 and the existing connector ramps.

Several loops were studied, ranging in radius from 45m to 70m. The smallest feasible loop radius would have facilitated keeping the footprint within the existing disturbed area. However, this would not meet mandatory design speeds, and would not be safe. In addition, the connector would still have to cross over the existing connectors, where this height would be similar to the "standard" Direct Connector. The larger loop radius would encroach into the Los Penasquitos Lagoon. It would be very difficult to mitigate the impact to the lagoon and obtain the necessary resource agency permits for this alternative, because it would not be considered the least environmentally damaging practicable alternative.

Loop Ramp under I-5

This is similar to loop ramp over I-5 described above, except that the loop would have a steep slope downwards to go under I-5, parallel to Carmel Valley Road. The loop radius would have to be even larger to avoid impacting the existing Carmel Valley Road southbound I-5 on ramp and Sorrento Valley Road. This alternative would require closure of the existing Carmel Valley Road northbound off ramp. Otherwise, the intersection with the loop ramp would have to be_signalized which does not provide a traffic improvement over the existing condition. In order to maintain the same number of existing traffic lanes with the loop ramp under I-5, the segment of I-5 that crosses over Carmel Valley Road would have to be replaced, which is not practicable.

Both loop alternatives were determined to be not feasible in the Value Analysis Report dated May 2002.

Grade Separated Intersections with Carmel Valley Road and El Camino Real

This concept was based on grade separating the SR-56 ramps at the intersections of El Camino Real to bypass the signals and provide direct access to Carmel Valley Road for both local and regional traffic. This alternative requires the closure of all business along Carmel Valley Road between El Camino Real and the I-5 Ramps. This alternative also requires the acquisition of the Shell gas station. Furthermore, the closure of local access to SR-56 from El Camino Real and the removal of the eastbound Carmel Valley Road to northbound I-5 movement limit the operational characteristics of this alternative. Due to operational and safety related issues, this alternative was withdrawn from further consideration.

This alternative was determined to be not feasible in the Value Analysis Report dated May 2002.

"Long Bridge" Alternative

The long bridge alternative was a variation of the Direct Connector Alternative that attempted to utilize a pocket of Right of Way along southbound I-5 as the beginning of the connector. The design resulted in a 300 m extension of the southbound to eastbound connector with no reductions in Right of Way or retaining wall height. Due to increased costs, this alternative has been withdrawn.

Tunnel Option

The southeast connector would follow a tunnel alignment below I-5. The tunnel portals would be located south of Del Mar Heights Road along the west side of I-5 and south of Carmel Valley Road west of El Camino Real. Preliminary tunnel sections and geotechnical borings in the vicinity have been reviewed. The construction would be performed in difficult and unstable ground consisting of sands and gravels under high groundwater heads. It is known that large excavations like these constructed in soft ground with high groundwater heads can result in high settlements, on the order of inches to feet. High settlements can also occur if groundwater flow is not controlled during construction. An extensive grouting program would likely be required and the tunnel would need to be constructed with special tunneling equipment. The risk of settlements and sinkholes impacting I-5 are a concern and it is uncertain whether these risks could be fully mitigated. The cost of such mitigation is likely to be substantial. In addition, the existing foundation for the Carmel Valley Road Overcrossing and columns for existing connectors cannot be impacted during construction of a tunnel. Notwithstanding the above limitations, the risks and associated costs involving a tunnel under I-5 makes this alternative impracticable.

Direct Connector Alternative with Eastbound Access to Carmel Creek Road

This alternative was a variation of the Direct Connector Alternative that attempted to maintain the existing exit ramp from the northbound to eastbound connector to Carmel Creek Road. To allow access to Carmel Creek Road from the existing connector, the profile elevation of the proposed connector maintained the necessary clearance for the exit ramp to pass underneath. The proposed two lane connector then entered the existing SR-56 mainline on grade. The realigned exit ramp paralleled the proposed connector, as the El Camino Real on-ramp merged and the Carmel Creek Road off-ramp diverged from the ramp, providing approximately 350 m of weaving distance. The ramp then merges back into the mainline SR-56 downstream of the connector, allowing vehicles from El Camino Real to enter eastbound SR-56.

This alternative was withdrawn for the following reasons:

- *Failing weaving segment* – The volume of vehicles attempting to weave from SR-56 to Carmel Creek Road and El Camino Real to SR-56 approaches 4000 vehicles per hour in the peak hour. This results in a Level of Service F for the weaving section. The failing weave has the potential of impacting the operations along the mainline, creating hazardous conditions on the existing connector.
- *Impacts to the Carmel Valley Restoration and Enhancement Project (CVREP)* – The required lane configuration to accommodate the entering and exiting vehicles expands the freeway beyond the boundaries of the CVREP. The impacts would require mitigation to a mitigation site and would be prohibitive to the project.
- *Non-Standard weave length* – According to the Highway Design Manual, the minimum weave length shall be 500m. The proposed alternative provides only 350 m.

Due to safety, geometric, and operational deficiencies, this alternative was withdrawn from further consideration.